

PROCEEDINGS OF THE ROYAL ENTOMOLOGICAL SOCIETY OF LONDON

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ORDINARY MEETING

WEDNESDAY, 2nd DECEMBER, 1959, at 5.30 p.m. (Tea 5 p.m.)

AGENDA

1. Confirmation of the Proceedings of the Ordinary Meeting held on 4th November, 1959.
2. Recommendations of candidates for Fellowship. First reading.
3. Recommendations of candidates for Fellowship. Second reading.
4. Announcement of election of new Fellows.
5. Additions to the Library [see p. 32].
6. Nomination of Officers and Council for 1960.
7. Admission of Fellows.
8. Papers accepted for publication in the *Transactions*.
9. Exhibits.
10. Communications.

1. Mr. J. C. Ene

Parental care shown by a West African Mantis, *Tarachodes afzelii* (Stål)

Unlike the majority of praying mantids, female *Tarachodes afzelii* remain on their egg masses throughout the incubation period. They drive away any small insects that approach, including hymenopterous parasites which attempt to oviposit in the egg masses. After eclosion, they remain with the nymphs for about two days, during which period the nymphs show gregarious tendencies.

2. Professor G. C. Varley

The wing movements of a fly

The wing movements of a fly can be imitated by a mechanical model (Pringle, J. W. S., *Insect flight*, C.U.P., 1957). The model illustrates the effects of the mobility of both the anterior and posterior notal processes, the first of which provides a "click mechanism" which explains why insects so often die with their wings up or down, but not half way. The movement of the posterior notal process explains the twisting of the wing between the up stroke and the down stroke. In a simple way the model shows how the direct muscles by tonic contraction can modify the form of the wing beat, which is powered by the alternating twitch contractions of the opposed indirect muscles.

3. Dr. L. Davies

Gonotrophic patterns in Canadian pest black flies (Diptera : Simuliidae)

The black flies of the forested regions fall into two categories: (a) those that need blood for the first ovarian cycle (anautogenous species) and, (b) those that complete a first ovarian cycle on larval food reserves (autogenous species) and attack man to obtain blood for the second and later ovarian cycles. Methods used to distinguish between these two kinds of adult cycles in the field will be described. Autogenous species can be recognised by the absence of nulliparous females around man at all times. In one such species the female resting sites have been found and ovarian events studied therein. In this case the timing of mass oviposition was successfully forecast, this event being followed by a mass biting attack on man.

4. Mr. W. Victor Harris

Some Termites of British Honduras

During a short visit to British Honduras in 1958 seven species of Isoptera were collected. *Kaloterms tabogae* Snyder, *Cryptoterms brevis* (Walker), *Heterotermes convexinotatus* (Snyder) and *Coptotermes niger* Snyder were associated with damage to building timbers. *Coptotermes niger* was found to be the cause of damage to growing trees. A new species of *Termes* feeds on tree stumps in the forest. *Nasutitermes cornigera* Motschulsky and *N. nigriceps* (Haldeman) construct conspicuous carton nests on trees, fence posts and peasant houses. Termite damage is an important factor governing the ability of buildings to resist hurricanes. Timber is the main export from British Honduras. The proportion of timber trees attacked by *Coptotermes niger* up to the time they reach maturity, and rendered unfit for milling, is a matter of some concern.

NOTICES

The next meeting will be held on *Wednesday, 20th January, 1960.*

Entomology at Malham Tarn

Dr. W. D. Hincks will introduce short talks by **Mr. J. H. Flint**, **Mr. H. M. Russell** and **Mr. H. N. Michaelis** (a visitor).

PROCEEDINGS OF THE ORDINARY MEETING HELD ON 4TH NOVEMBER, 1959

Dr. J. S. KENNEDY, Vice-President, in the Chair

Present, 81 Fellows and 29 Visitors.

The minutes of the Ordinary Meeting held on 7th October were confirmed and signed by the Vice-President.

The names of the following candidates for election were read for the first time: **Mr. Samuel Apeji**; **Dr. Robert E. Blackith**, Ph.D., D.I.C., A.R.C.S.; **Mr. Richard James Brunning**, B.Sc.; **Mr. Anthony Eve**, B.Sc.; **Mr. Alan Charles Eyles**; **Mr. Bruce Ing**; **Mr. Surrinder Nath**, M.Sc.; **Miss Joan E. R. Salter**; **Mr. George James Smith**; and **Miss Hilary May Walker**.

For the second time (taken as read): **Mr. Peter Fleming Aitken**, B.Sc.; **Mr. Mohammad Ameezuddin**; **Dr. Shahid Husain Ashrafi**; **Mr. Peter Rowland Bailey**, B.Sc.; **Mr. Ralph Chamberlain**; **Mr. Donald Ivan Chapman**; **Mr. Alexander Davidson**; **Mr. John C. Ene**, B.Sc.; **Dr. Henry John Egglshaw**;

Mr. John Forsyth, B.Sc.; Mr. Lameck Kazembe Haza Goma, M.A., B.Sc.; Mr. William John Walter Hines, M.Sc.; Mr. Lance Southward Kelly; Miss Daphne Linscott; Mr. David Kendray McAlpine; Mr. Michael Edward Marchant; Mr. Sayed Tawqir ul Hasan Naqvi; Mr. P. K. Rajagopalan, M.Sc.; Mr. A. V. Sadanand; Mrs. Joan Marjorie Sherratt; Mr. Donald Henry Smith; Mr. Timothy Ajibola Taylor; and Mr. Douglas Harvey Welch.

The Secretary read the names of the following newly elected Fellows of the Society: Mr. Narinder Perakash Chopra, M.Sc., Punjab University College, Hoshiarpur, Punjab, India; Mr. Bruce J. Evans, 19, Barnby Road, Knaphill, Woking, Surrey; Mr. John McCallum Deighton, 7 Mount Avenue, Ealing, London, W.5; Mr. John Weston Mills, 4 The Paddock, Molescroft, Beverley, Yorks.; Mr. Amirapu Perraju, Government Agricultural College, Bapatla, Guntur District (A.P.), India; Mr. George Buckham Reilly, 6 Westbury Avenue, Chapeltown, Sheffield; Mr. Milton William Shaw, M.Sc., North of Scotland College of Agriculture, Marischal College, Aberdeen; Mr. Robert William Taylor, B.Sc., University of Auckland, Auckland, New Zealand; and Mr. Edward Farrington Woods, 91 Manor Road South, Esher, Surrey.

Thanks were voted to donors of gifts to the Library since the last meeting.

Dr. C. Teesdale, Mr. M. J. van den Heuvel and Mr. J. A. Whellan signed the Obligation Book and were admitted Fellows of the Society.

A film entitled "Insect Adaptations in Brazil", made by **Dr. H. B. D. Kettlewell** in 1958 in connection with the Darwin centenary, was shown. In the unavoidable absence of Dr. Kettlewell owing to illness, the Vice-President made the following statement on his behalf:

"This film was made in the spring of last year during an expedition to follow the Brazilian route taken by Darwin on his voyage in the 'Beagle' in 1832, and to attempt to assess the insect adaptations in the light of modern evolutionary and genetical knowledge.

"Anyone who is interested to know more about the Brazilian insect adaptations can refer to my paper in the current issue of *Endeavour* (No. 72), where the following sentence is quoted from Darwin's Journal:

'The large and brilliantly coloured Lepidoptera bespeak the zone they inhabit, far more plainly than any other race of animals. I allude only to the butterflies; for the moths, contrary to what might have been expected from the rankness of the vegetation, certainly appeared in much fewer numbers than in our own temperate region.'

"This is a most poignant sentence, because on the one hand it suggests Darwin's quite natural inability to assess, at that time, the significance of conspicuous butterfly patterns. On the other, it admits the efficiency of the camouflage of the multitudinous cryptic (camouflaged) moths which so successfully hid from him by day; modern collecting methods have made an appreciation of them much easier."

In the discussion which followed the film, Professor G. C. Varley commented that the extent to which British species fall behind in protective adaptation was unfortunately not known. Similar adaptations occurred in many British species, and a comparable film would be of great value and interest.

Dr. J. S. Kennedy observed that the weight of predation might be less in this country and Mr. W. B. Broughton remarked that the adaptations shown in the

film suggested that in Brazil there was more vertebrate predation, while in Britain parasitism was probably more important.

Mrs. K. J. Richardson commented on the highly developed protective coloration of two common moths in the Hampstead area, where predation was very high.

Professor O. W. Richards and Mr. R. L. E. Ford recalled instances where birds had picked caterpillars from a branch immediately after it had been "cleared" by entomologists. Mr. L. Hugh Newman said that he thought birds were able to find the caterpillars by scent, and quoted the case of blue tits taking larvae through a hole in a sleeve.

Mr. G. Surtees suggested that the range of vision of predators was different from that of humans, a view which was supported by Dr. F. L. Vanderplank, who also added that in the African tropics the intensity of the light and the great contrast within the forest areas produced a diversity of forms, and that the amount of parasitism was higher than in this country.

Dr. C. B. Williams commented that parallel forms of nearly all the adaptations shown in the film were to be found in Britain, but the more extreme conditions of the tropics made them more striking.

Dr. P. T. Haskell observed that the close approach of birds might induce small movements of the insect which were visible to the birds but probably not to the human eye.

The meeting concluded with a film entitled "Venezuela fights malaria", kindly lent by the Shell Film Unit.

PAUL FREEMAN, *Honorary Secretary.*

ADDITIONS TO THE LIBRARY

Presented

- British Museum (Natural History). *A systematic monograph of the Dermaptera of the World*. Pt. 2. *Pygidicranidae excluding Diplatyinae*. By W. D. Hincks. 8vo. London, 1959. [The Trustees of the British Museum.]
- Foote, R. H., & Cook, D. R. *Mosquitoes of medical importance*. 4to. Washington, 1959. [*Agric. Handbk. U.S. Dep. Agric.* 152.] [United States Department of Agriculture. By Exchange.]
- Paschke, J. D. Production of the agamic alate form of the Spotted Alfalfa aphid *Therioaphis maculata* (Buckton) (Homoptera: Aphidae). *Univ. Calif. Publ. Ent.* 16: 125-180, 1959. [The Publishers.]
- Toll, S. *Klucze do oznaczania owadów Polski*. XXVII. *Lepidoptera*. 6. *Tischeriidae*. 8vo. Warszawa: Polski Związek Ent., 1959. [*Serii Kluczy* 30.] [Polish Entomological Society. By Exchange.]

In addition, separates have been presented by Dr. J. D. Bletchly; C.S.I.R.O., Melbourne; Mr. G. R. Gradwell; E.A.T.R.O., Tororo; Mr. H. A. F. Lea; United States Department of Agriculture; Dr. J. Phipps; South African Institute of Medical Research; Professor C. W. Sabrosky; Mr. J. A. Whellan; Mr. S. R. Bowden; Dr. Chang-Wan Kim; Mr. R. C. Fisher; American Entomological Society; and Mr. C. N. Smithers.